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GB A 2070933	GB 1391248
GB 1581430	GB 1053801
GB 1506049	

(58) Field of search
A5E

(54) Insect repellant device

(57) An insect repellant device comprising an flexible backing sheet 10 onto which is printed an elongated band 11 or coil of material comprising a mixture of a filler material and active insect repellant and/or insecticide chemicals.

Fig.1.

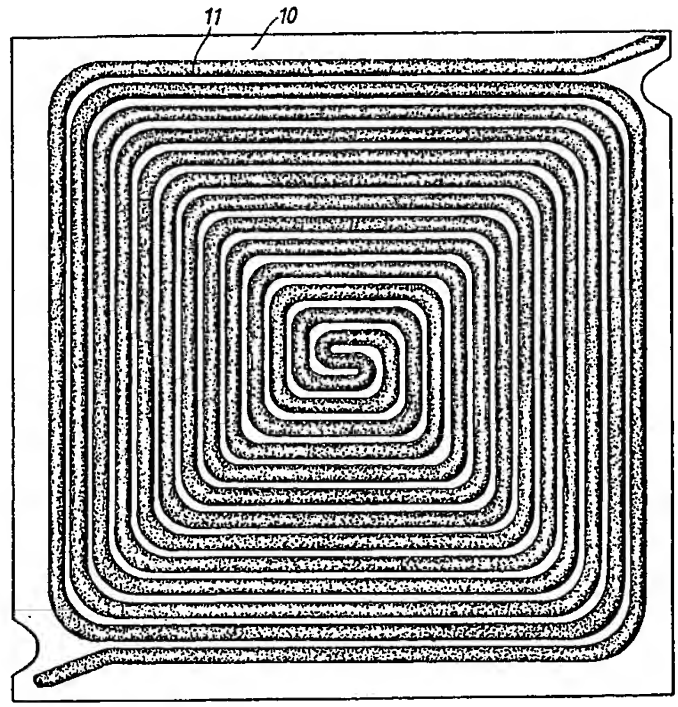

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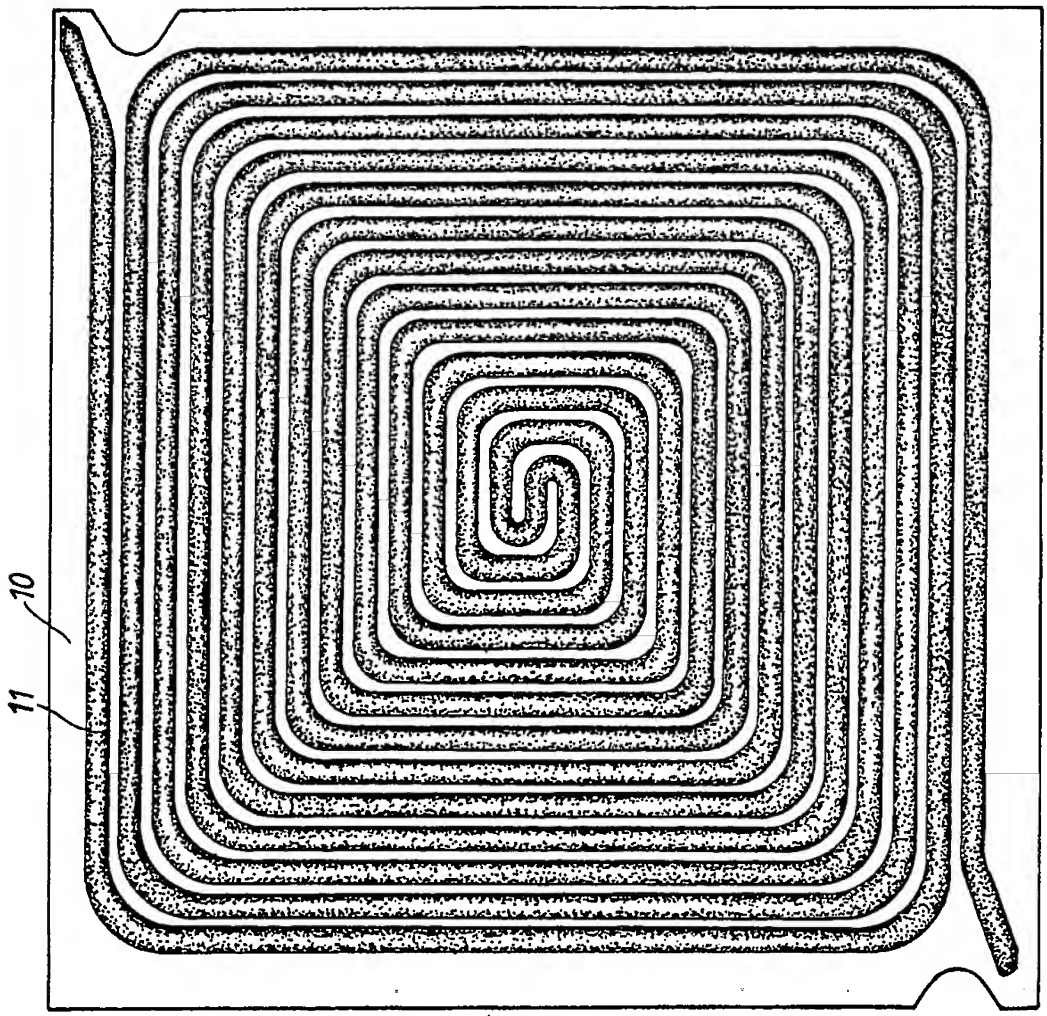
Fig.2.



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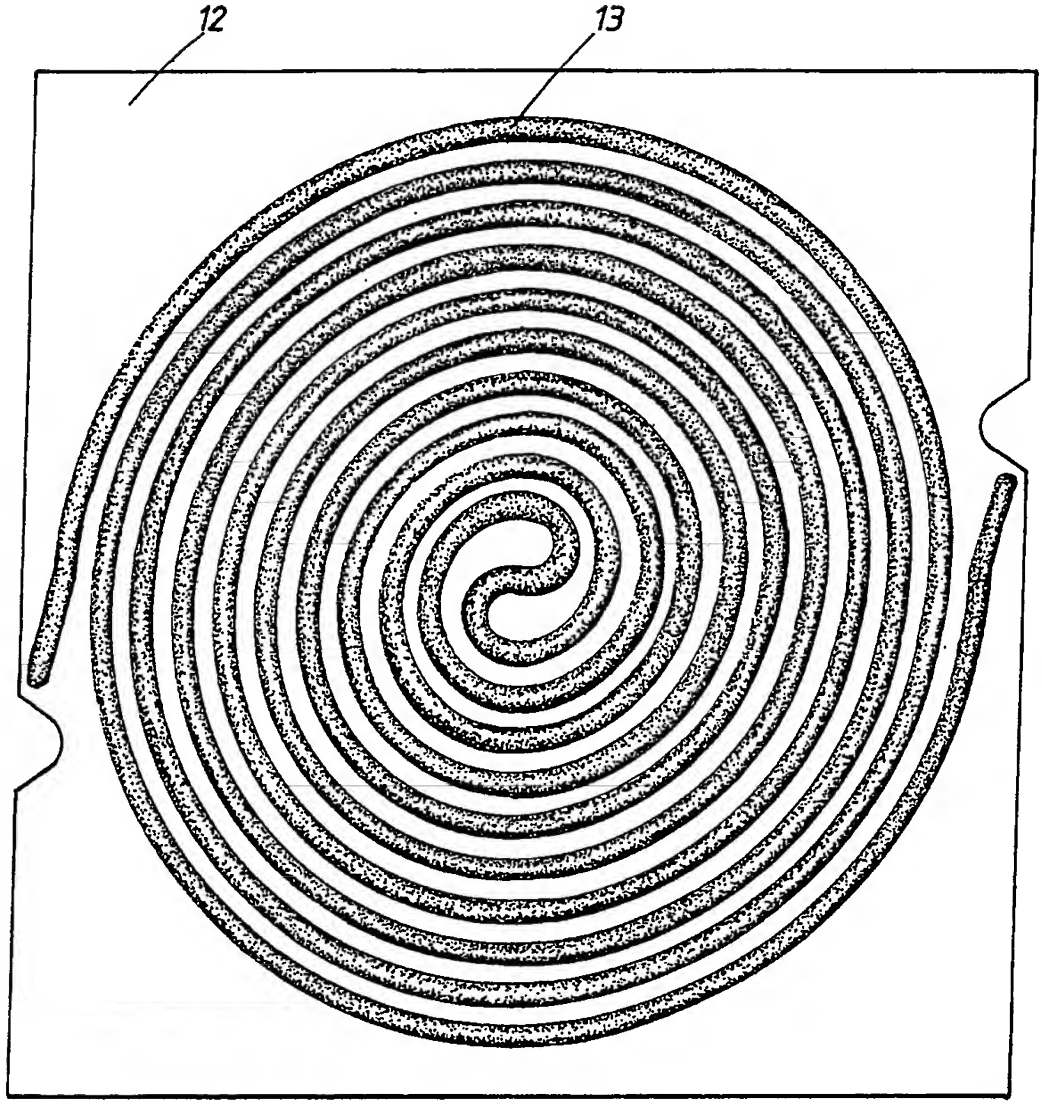

Fig. 3.

SPECIFICATION

Insect Repellant Devices

This invention relates to insect repellant devices of the kind usually known as a mosquito coil. Such a device is a coil made from a material which is combustible and which, when it burns, gives off insecticide and/or insect repellant fumes.

Such mosquito coils are usually very brittle and therefore easily broken, being moulded from a mixture of materials to form a self-supporting coil construction.

It is the object of this invention to provide an insect repellant device which acts in use in the manner of a mosquito coil but which is much easier and more convenient to handle than conventional devices of this sport.

In accordance with the present invention there is provided an insect repellant device comprising a flexible backing sheet onto which is printed an elongated band of material comprising a mixture of a filler and active insect repellant and/or insecticide chemicals.

Preferably the backing sheet is paper and the mixture material is applied thereto by a conventional printing process, conveniently into the form of a coil.

Advantageously the mixture material comprises a filler which includes a high proportion of charcoal powder.

The invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a plan view of a mosquito coil constructed in accordance with the invention,

Figure 2 is an edge view thereof, and

Figure 3 is a mosquito coil of alternative form constructed in accordance with the invention.

Figure 1 shows a mosquito coil comprising a backing sheet 10 of thin flexible material such as relatively thick paper which, however, is impregnated to render it incombustible or slowly combustible, The backing sheet is of generally rectangular form with two cut-outs adjacent opposite corners respectively. Printed on the one surface of the backing sheet is a continuous coiled band 11 in the form of two coils having respective outer ends disposed near the two opposite corners of the backing sheet respectively and the two coils being joined at the centre. The coiled band 11 is of generally rectangular overall configuration as shown. The paper edge at either corner, and thus the end of the coil, can be lit and it will smoulder for a substantial period as the material is progressively consumed.

Figure 3 shows an alternative form of the coil also on a paper backing sheet 12, but in this case the coiled band 13 is of overall circular configuration having its two ends disposed near a pair of cut-outs in the two oppposite side edges of the backing sheet 12.

The edge view shown in Figure 2 illustrates the depth of the material forming the coiled band 11 or 13 on the backing sheet 10.

The material from which the coil is formed in one example comprises the following mixture formulation, the ingredients being given in proportions by weight.

Fillers:	
alpha starch	8%
gum wood powder	16%
wood powder	3%
Charcoal powder	72%
Chemicals:	
pynamin forte	0.4%
inert ingredient	0.5%
perfume	0.1%

The use of the charcoal powder comprising the main proportion of the filler is an important feature of the mixture and gives the coil a black colour. This may be conveniently contrasted onto a backing sheet which may be green. The materials chosen afford a certain flexibility to the finished product which makes it easier and more convenient to handle than conventional mosquito coils. The material burns to give off insect repellant and/or insecticide fumes.

The process for the manufacturing of the coil comprises first mixing the filler ingredients in dry form in their correct percentages as given above. Next the active chemical ingredients are mixed with an emulsifier. The perfume may be used if desired.

The chemical ingredients are mixed with water and these are then mixed with filler materials until a paste is formed. The paste can be screen printed onto the paper backing sheet. The paper backing sheet may be in roll form. A drying process may be used before or after packing into the required sizes.

The active chemical ingredients may be other than those described. Pyrethoid insecticides such as Pynamin Forte of Technical Grade or Esbiothrin or natural Pyrethrin may be used.

Other equivalent filler materials or ingredients for filler materials may be substituted for those described.

CLAIMS

1. An insect repellant device comprising a flexible backing sheet onto which is printed an elongated band of material comprising a mixture of a filler and active insect repellant and/or insecticide chemicals.

2. An insect repellant device as claimed in claim 1 wherein the elongated band is in the form of a coil.

3. An insect repellant device as claimed in claim 2 in which there are two coils being outer ends at spaced positions on the backing sheet and joined in the centre.

4. An insect repellant device as claimed in any

one of the preceding claims in which the band is in the form of a coil laid out on a square backing sheet.

5. An insect repellant device as claimed in any one of claims 1 to 3 wherein the elongated band is in the form of a coil laid out on a circular backing sheet.

6. An insect repellant device as claimed in any one of the preceding claims wherein the backing sheet is of incombustible or slowly combustible material.

7. An insect repellant device as claimed in any one of the preceding claims in which the material from which the band is formed is printed by conventional printing process onto the backing sheet.

8. An insect repellant device as claimed in any one of the preceding claims wherein the filler of the material of the band is a mixture of starch, wood powders and charcoal powder.

9. An insect repellant device as claimed in claim 8 in which the proportions of the ingredients of the filler are:

alpha starch	8%
gum wood powder	16%
wood powder	3%
charcoal powder	72%

10. An insect repellant device as claimed in any one of the preceding claims in which the active chemicals comprise an insecticide and an inert ingredient.

11. An insect repellant device as claimed in claim 10 in which the active chemicals are:

pynamin forte	0.4%
inert ingredient	0.5%

12. An insect repellant device as claimed in claim 10 or claim 11 in which a perfume is added as part of the active chemicals.

13. An insect repellant device as claimed in claim 12 in which the proportion of perfume is 0.1%.

14. An insect repellant device as claimed in any one of the preceding claims in which an emulsifier and water are mixed with the chemical ingredients and then these are mixed with the filler materials to form a paste which is then printed onto the backing sheet.

15. An insect repellant device substantially as hereinbefore described by way of example with reference to and as shown in the accompanying drawings.

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